EXAMPLE 7: (Less Readily Decomposable Cerium Salt)

A catalyst containing 6 weight % of cerium was prepared in the manner described in Example 2 save that cerium sulfate was substituted for cerium nitrate. The activity of the catalyst so made was determined in a series of tests. Between the individual tests, the catalyst below the test gas mixture was annealed in each particular case for 10 minutes at 800° C.

Activity determination	$U_{50\ CO}$[° C]	$U_{90\ CO}$[° C]	$U_{50\ Hex}$[° C]
1	430	530	590
2	350	450	580
3	290	390	560
4	260	360	540
5	240	340	530
6	220	330	530

EXAMPLE 8: (Mixture of Rare Earths)

Catalysts containing 6 weight % of rare earths were prepared in the manner described in Example 2 save that the cerium nitrate was replaced by salt solutions produced by dissolving cerium mixed metals of the following composition:

Alloy A:	56 % of Ce	Alloy B:	49 % of Ce
	28 % of La		23 % of La
	10 % of Nd		15% of Nd
	4 % of Pr		12% of Pr + Y
	2 % of further r.e.		1% of further r.e.

in nitric acid. The activity was determined and the following results were obtained:

	Cerium mixed metal alloy:	
	A	B
$U_{50\ CO}$[° C]	280	330
$U_{90\ CO}$[° C]	380	430
$U_{50\ Hex}$[° C]	550	525

EXAMPLE 9: (Annealing Period and Temperature)

The catalyst prepared in the manner described in Example 2 which had the following activity:

$U_{50\ CO}$ = 160° C
$U_{90\ CO}$ = 205° C
$U_{50\ Hex}$ = 505° C

was annealed for 13 hours at 1100° C and then had the following activity:

$U_{50\ CO}$ = 185° C
$U_{90\ CO}$ = 280° C
$U_{50\ Hex}$ = 530° C

A catalyst was prepared in the manner described in Example 2 save that the annealing step at 700°–900° C was omitted and replaced by heat treatment at 300°–400° C, after decomposition of the cerium salt. The catalyst so made had the following activity:

$U_{50\ CO}$ = 185° C
$U_{90\ CO}$ = 355° C
$U_{50\ Hex}$ = 535° C

EXAMPLE 10

Basic aluminum chloride $Al_2(OH)_5Cl \cdot 3\ H_2O$ ("Locron," a product of Farbwerke Hoeschst AG) was dissolved in water and the solution was admixed with the quantity of cerium nitrate necessary to obtain a catalyst containing 6% of cerium. The whole was admixed with ammonia to jointly precipitate the Al and Ce hydroxides. The precipitate was filtered off, scrubbed with water and dried. After the addition of 5 weight % of graphite, the dry precipitate was compressed into shapes. The graphite was burnt off at 650° C and the shapes were annealed for 20 hours at 800° C. The activity was determined and the following results were obtained:

$U_{50\ CO}$ = 330° C
$U_{90\ CO}$ = 450° C
$U_{50\ Hex}$ = 540° C
$U_{90\ Hex}$ = 640° C.

We claim:

1. A carrier-supported catalyst, wherein the active ingredient consists essentially of cerium in oxide form and wherein 0.? to 10 weight% of cerium, based on the carrier, is deposited thereon and wherein the carrier is produced by suspending aluminum oxide selected from the group consisting of delta-alumina and boehmite, and having an alkali content of up to 0.2 weight%, in water; heating the resulting highly viscous magma so as to form a dry mass; admixing graphite to the dry mass and grinding it; compressing the ground graphite-containing mass into shapes; burning off the graphite from the shapes at temperatures within the range 550° to 750° C; and calcining the shapes for periods within the range 10 to 20 hours at temperatures within the range 1000° to 1250° C.

2. A process for making the carrier-supported catalyst as claimed in claim 1, which comprises suspending aluminum oxide selected from the group consisting of delta-alumina and boehmite, and having an alkali content of up to 0.2 weight%, in water; heating the resulting highly viscous magma so as to form a dry mass; admixing graphite to the dry mass and grinding it; compressing the ground graphite-containing mass into shapes; burning off the graphite from the shapes at temperatures within the range 550° to 750° C; calcining the shapes for periods within the range 10 to 20 hours at temperatures within the range 1000° to 1250° C impregnating the shapes with an aqueous solution of a cerium salt of a readily decomposable acid; drying the cerium salt so applied to the shapes for periods within the range 16 to 64 hours at temperatures within the range 130° to 150° C; decomposing the dry cerium salt by heating the shapes first at temperatures within the range 200° to 300° C and thereafter at temperatures within the range 450° to 550° C, respectively; and annealing the resulting shapes containing cerium oxide at temperatures within the range 700° to 900° C.

3. The process as claimed in claim 2, wherein between 3 and 10 weight% of graphite is admixed to the dry mass prior to grinding it.

4. The process as claimed in claim 2, wherein the cerium salt of a readily decomposable acid is cerium nitrate.

* * * * *